
शहरी क्षेत्र में अल्प लागत वाले आवास की
अपेक्षाएँ — मार्गदर्शिका
(दूसरा पुनरीक्षण)

**Requirements of Low Income
Housing for Urban Areas — Guide**
(*Second Revision*)

ICS 91.040

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भारतीय मानक ब्यूरो
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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Planning, Housing and Prefabricated Construction Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was first published in 1978 on the recommendations of the Housing Ministry's Conference held in 1975. In this standard the requirements of that section of the population, who had very low family income and who really could not afford to build a house, was considered. Hence, the approach of this standard had been directed towards housing for the low income and not for low cost housing as such which might be needed by those having high income compared to others. The attempt, therefore, was made in this standard to find out how far low the requirements of housing could be brought down without jeopardizing certain safeties, namely, fire safety, health safety and structural safety. Though in this standard certain modifications have been attempted in the planning and general building requirements, requirements regarding structural safety, health safety and fire safety have been specified in accordance with the National Building Code of India.

The standard was first revised in 1993 as IS 8888 (Part 1) : 1993 'Requirements of low income housing — Guide: Part 1 Urban areas'. It was decided to bring out the two more parts to cover such requirements for rural areas and slum upgradation. The first revision was taken up keeping in view the experience gained over the years by various housing organizations in implementing this standard. The following major modifications were incorporated in the first revision of the standard:

- a) Single room dwelling was discouraged;
- b) Guidelines for water seal latrine was incorporated; and
- c) Cluster planning approach was recommended.

In this revision of the standard, following modifications have been incorporated:

- a) The standard has now been published as an independent standard considering that the requirements for low income housing in rural areas and slum upgradation may also be covered in separate independent standards. Accordingly, the title of the standard has been modified.
- b) Provisions have been aligned with those given for low income housing in urban areas in SP 7 : 2016 'National Building Code of India 2016';
- c) Minimum plot size requirement has been reduced for mega cities;
- d) Requirement for community open space has been added;
- e) Option for planning based on net residential density has also been provided;
- f) Provision for off-street parking spaces has been added;
- g) Provision for four storeyed walk ups with future expansion possibility has been added; and
- h) Requirements for openings for lighting and ventilation have been modified.

It is generally felt that planning and general building requirements would have an important bearing on cost of construction. Therefore, some relaxation *vis-a-vis* the provisions of National Building Code of India and also the generally understood planning norms according to master plans available have been recommended to achieve higher densities which are quite possible and achievable.

This standard discourages plotted development since it would cost more in terms of land, except in the case of incremental housing and also site and services schemes. Instead, recommendations have been made for row housing and group housing on cluster planning approach.

In so far as reduction in general building requirements are concerned, though it is difficult to justify all the relaxations made in their totality, it is felt that in the interest of cost of construction, without sacrificing any safeties mentioned, as also durability and quality of the built asset, some relaxations could be attempted. This must be clearly understood in the use of this standard and to that extent comfort would be reduced.

In so far as specifications for low income housing are concerned, it is felt that the National Building Code of India gives a variety of specifications among which the cheaper ones could be chosen, where desired. Therefore, no

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Indian Standard

REQUIREMENTS OF LOW INCOME HOUSING — GUIDE

(*Second Revision*)

1 SCOPE

1.1 This standard provides guidelines for the planning and general building requirements of low income housing in urban areas for houses having a maximum plinth area of 40 m² including future expansion.

1.2 The requirements given in this standard for layout planning of low income housing colonies are applicable to public and private agencies/government bodies.

1.3 The requirements given in this standard for design and construction of buildings for low income housing in approved layouts are applicable to all private and public agencies.

1.4 SP 7, IS 12314 and IS 13727 are necessary adjuncts to this standard.

2 REFERENCES

The standards given below contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards.

<i>IS No.</i>	<i>Title</i>
12314 : 1987	Code of practice for sanitation with leaching pit latrines in rural communities
13727 : 2020	Requirements of cluster planning for housing — Guide (<i>first revision</i>)
SP 7 : 2016	National Building Code of India 2016

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

3.1 Cooking Alcove — A cooking space having direct access from the main room without any inter-communicating door.

3.2 Covered Area — Ground area covered by the building immediately above the plinth level. The area covered by the following in the open spaces is excluded from covered area:

- a) Garden, rockery, well and well structures, plant nursery, water pool, swimming pool (if uncovered), platform round a tree, tank, fountain, bench *Chabutra* with open top and unenclosed on sides by walls and the like;
- b) Drainage culvert, conduit, catch-pit, gully pit, chamber, gutter and the like;
- c) Compound wall, gate, unstoreyed porch and portico, canopy, slide, swing, uncovered staircases, ramp, area covered by *Chahhja* and the like; and
- d) Watchmen's booth, pump-house, garbage shaft, electric cabin or sub-stations and such other utility structures meant for the services of the building under consideration.

NOTE — For the purpose of this standard, covered area equals the plot area minus the area due for open spaces.

3.3 Density — The residential density is expressed in terms of number of dwelling units per hectare.

NOTE — Where such densities are expressed exclusive of community facilities and provision of open spaces and major roads (excluding incidental open spaces), these will be net residential densities. Where these densities are expressed taking into consideration the required open space provision and community facilities and major roads, these would be gross residential densities at neighbourhood level, sector level or town level, as the case may be. The provision of open spaces and community facilities will depend on the size of the residential community.

Incidental open spaces are mainly open spaces required to be left around and in between two buildings to provide light and ventilation.

4 PLANNING

4.1 Type of Development

The type of development for low income housing shall be plotted development as row housing or group housing on cluster pattern (*see* IS 13727).

4.2 Layout Pattern

4.2.1 In the land to be developed, at least 75 percent of the plots may be of the size less than or up to 60 m²

per dwelling unit in metropolitan towns and 100 m² in other towns and hill areas. Remaining 25 percent of the plots may be more than 60 m². However, no plot shall be more than 200 m². In case of group housing or flatted development, at least 75 percent units should have a plinth area (excluding external circulation, such as stairs, lifts, lobbies, etc) up to or not exceeding 40 m² including future expansion.

4.2.2 The mix of plots of different sizes should have a wide range to accommodate the need of lower income group. The project may include more than one site provided they are in the same neighbourhood.

4.2.3 The layout should generally conform to the following land use:

Sl No.	Land Use	Percentage of Land Under Each Use	
		General	Hill Area
(1)	(2)	(3)	(4)
i)	<i>Saleable:</i>		
	a) Residential	50 percent minimum	35 percent
	b) Work places, schools, institutions, shops, community places, etc	20 percent maximum	15 percent
ii)	<i>Non-saleable:</i>		
	Roads, pedestrian paths, drains, public and semi-public open spaces	30 percent maximum	50 percent

NOTES

1 Any neighbourhood development should have provision for basic civic and community facilities, however, where such facilities are available in proximity the same could be considered and, in that case, the area under residential use could be increased correspondingly.

2 If land required under statutory provisions of master plan/development plan is proportionately higher but serves larger city needs, readjustment of the recommended land use pattern can be considered. Such provisions should, however, be carefully reviewed by the planning authorities to keep them to the barest minimum levels.

4.3 Plot Area

4.3.1 Plot Size

The minimum plot size with ground coverage not exceeding 75 percent, shall not be less than 40 m² in small and medium town and not less than 30 m² in metropolitan cities. Plot sizes below 30 m² but not less

than 15 m² may be permitted in case of cluster planning, however, in such cases the ground coverage and FAR shall be 100 percent and 2, respectively (*see also* IS 13727 for special requirements for cluster planning for housing).

NOTES

1 In exceptional cases in metropolitan cities with population more than 1 million, the size of plots may be brought down to 25 m² in cases of low income housing colonies located in congested areas as decided by the Authority. In mega cities it may be further reduced to 15 m². In such cases where plot size is below 25 m², only cluster planning or group housing may be adopted.

2 A minimum of 25 percent of the plot size shall be left open without adversely affecting light and ventilation for habitable spaces and toilet. It shall not be made mandatory to leave set back on any side.

4.3.2 Minimum Frontage

The minimum frontage of the plot shall be 3.6 m in width.

4.4 Density

4.4.1 The density norms for plotted development and mixed development shall be as follows:

Sl No.	Type of Development	Range of Densities (Gross)
(1)	(2)	(3)
i)	Plotted development	65-120 plots per hectare
ii)	Mixed development:	
	a) Small towns	75-100 dwelling units per hectare
	b) Cities	100-125 dwelling units per hectare
	c) Metropolitan cities	125-150 dwelling units per hectare

NOTE — The Planning Authorities may adopt and specify the Gross/Net Residential Density based on the scale and size of the community planned for (*see* Note under **3.3**). In case net residential density has been specified, provision of open spaces and community facilities shall be made by the Authority depending on the size of the residential community.

4.4.1.1 In case of developments with per dwelling unit covered area of 15 m², four storeyed walk ups without future incremental growth with maximum densities of 500 dwelling units per hectare shall be permissible. In case of four storeyed walk ups, having two roomed dwelling unit where one room is for future expansion, maximum density of 400 dwelling units per hectare shall be permissible.

4.5 Height of Building

The height of building shall not exceed 15 m.

NOTES

- 1 For buildings up to this height of 15 m, there is no need to provide lifts.
- 2 Housing for the low income group shall be preferably be up to a maximum of two storeys.
- 3 Building for housing beyond 15 m in height should be resorted to in exceptional circumstances and it should be governed by provisions laid down in SP 7.

4.6 Cluster Planning

For size of open cluster, and cluster open space, setbacks, vehicular access, and pedestrian paths in cluster planning, the provisions given IS 13727 shall apply.

4.7 Community Open Space

4.7.1 In any layout or sub-division of land measuring 0.3 hectares or more in residential zone, the community open spaces shall be reserved for recreational purposes which shall as far as possible be provided in one place or planned out for the use of the community in clusters or pockets.

4.7.1.1 The community open spaces shall be provided catering to the needs of area of layout, population for which a layout is planned and the category of dwelling units. The following minimum provision shall be made for low income housing:

- a) 15 percent of the area of the layout, or
- b) 0.3 hectares/ 1 000 persons.

4.7.2 No recreational space shall generally be less than 450 m².

4.7.2.1 The minimum average dimension of such recreational space shall be not less than 7.5 m; if the average width of such recreational space is less than 24 m, the length thereof shall not exceed 2.5 times the average width. However, depending on the configuration of the site, commonly open spaces of different shapes may be permitted by the Authority, as long as the open spaces provided serve the needs of the immediate community contiguous to the open spaces.

4.7.2.2 In such recreational spaces, a single storeyed structure as pavilion or gymnasium up to 25 m² in area may be permitted; such area may be excluded from FAR calculations.

4.7.3 Each recreational area and the structure on it shall have an independent means of access. Independent means of access may not be insisted upon if recreational space is approachable directly from every building in the layout. Further, the building line shall be at least 3 m away from the boundary of recreational open space.

5 GENERAL BUILDING REQUIREMENTS**5.1 General**

The requirements of parts of buildings shall be as given in 5.2 to 5.9. The provisions contained in Part 3 'Development control rules and general building requirements' of SP 7 shall apply excepting for the specific provisions given in this standard.

5.2 Plinth

The minimum height of the plinth shall be regulated on the basis of environmental and topographical condition and higher plinth height may be required in areas prone to flooding.

5.3 Size of Room**5.3.1 Habitable Room**

Every dwelling unit to be provided should have at least two habitable rooms. Even if one room house is provided initially it should be capable of adding a new second room in future. However, in case single room tenements are required to be provided where future additions are not possible, the carpet area of the multi-purpose single room, should be at least 12.5 m². One room dwelling units with 12.5 m² carpet area of habitable space is permitted only in case of on-site rehabilitation of slum dwellers. In a house of two rooms, first room shall not be less than 9.0 m² with minimum width of 2.5 m and second room shall be not less than 6.5 m² with a minimum width of 2.1 m provided the total area of both the rooms is not less than 15.5 m². In incremental housing, the bigger room shall always be the first room.

5.3.1.1 To facilitate incremental housing in case of flatted development or otherwise, habitable space at mezzanine level may be permitted. The minimum size of such a mezzanine floor should not be lesser than 6.5 m² and such a floor should occupy not more than 50 percent of the room area of which it is a part. Such a mezzanine floor should have appropriate openings to facilitate light and ventilation as per 5.6 of this standard. Minimum clear height below and above the mezzanine floor should be 2.4 m and 2.1 m, respectively.

As far as possible mezzanine floor should have direct ventilation from the external face of the building. Where this is not possible, ventilation through main room maybe allowed provided total area of openings in the main room is provided taking into consideration area of mezzanine floor.

Such mezzanine floor may be accessible through the main room by a ladder, whose minimum angle with vertical plane should be 22.5°. Height of the riser should be less than 250 mm.

5.3.2 Water -Closet/ Bath Room

- a) The size of independent water-closet shall be 0.90 m² with minimum width of 0.9 m;
- b) The size of independent bath room shall be 1.20 m² with minimum width of 1.0 m; and
- c) The size of combined bathroom and water-closet shall be 1.80 m² with minimum width of 1.0 m.

5.3.3 Kitchen

The size of a cooking alcove serving as cooking space shall not be less than 2.4 m² with a minimum width of 1.2 m. The size of individual kitchen provided in two-roomed house shall not be less than 3.3 m² with a minimum width of 1.5 m.

5.3.4 Balcony

The width of individual balcony, where provided shall be 0.9 m and shall not be more than 1.2 m and it shall not project beyond the plot line and on roads or pathway.

5.4 Minimum Height

The minimum height of rooms/spaces shall be as follows:

- | | |
|-----------------------|-------|
| a) Habitable room | 2.6 m |
| b) Kitchen | 2.6 m |
| c) Bath/ water-closet | 2.1 m |
| d) Corridor | 2.1 m |

5.4.1 In the case of sloping roofs, the average height of roof for habitable rooms shall be 2.6 m and the minimum height at eaves shall be 2.0 m.

5.5 Lighting and Ventilation

The openings through windows, ventilators and other openings for lighting and ventilation, excluding the doors inclusive of frames shall be not less than,

- a) one-tenth of the room floor area for dry-hot climate;
- b) one-sixth of the room floor area for warm-humid climate;
- c) one-eighth of the floor area for temperate and composite climate; and
- d) one-twelfth of the floor area for cold climate.

NOTES

- 1 If window is partly fixed, the openable area shall be counted.
- 2 No portion of a room shall be assumed to be lighted, if it is more than 7.5 m away from the opening assumed for lighting that portion.
- 3 The area of openings as given in (a) to (d) above shall be increased by 25 percent in the case of kitchen.
- 4 The windows and other openings shall abut on to open spaces either through areas left open within the plot or the front, side and rear spaces provided in the layouts which shall be treated as deemed to be sufficient for light and ventilation purposes.

Wherever ventilation/lighting is provided by means of *JALI* or grills of any material, total area of openings shall be calculated excluding solid portion of the jali or grill.

5.6 Stairs

The following criteria shall be adopted for internal individual staircase:

- a) Minimum clear width:
 - 1) 2 storeyed — straight : 0.60 m
 - 2) 2 storeyed — winding : 0.75 m
 - 3) 3 or more storeyed — straight : 0.75 m
 - 4) 3 or more storeyed — winding : 0.90 m
- b) Riser : 200 mm, *Max*
- c) Tread:
 - 1) 2 storeyed : 225 mm, *Min*
(see Note)
 - 2) 3 storeyed or more : 250 mm, *Min*
- d) Head Room — The minimum clear headroom shall be 2.1 m.

NOTE — This could be reduced to 200 mm as the clear tread between perpend, with possibility of open riser as well as nosing and inclined riser to have an effective tread of 225 mm.

5.7 Circulation Area

Circulation area on any floor including staircase shall not exceed more than 8 m²/dwelling unit.

5.8 Water Seal Latrine

5.8.1 No building plan shall be approved and no building shall be deemed to have been completed and fit for human occupation unless provision is made for water seal latrine. No dry latrine shall be allowed. All efforts should be made to provide one toilet for each dwelling unit. Water seal latrines can also be provided on the basis of community toilets or shared toilets as given in IS 13727 and in **5.8.1.1**.

5.8.1.1 In cluster housing for economically weaker section families, group toilets at the rate of one water-closet, one bath and a washing place for three families may be provided. These shall not be community toilets, as keys to these toilets shall be only with these three families, making them solely responsible for the maintenance and upkeep of these toilets.

5.8.2 Efforts to use decentralized waste water system, faecal sludge management system along with hygienic safe sludge disposal system as given in SP 7 should be made. Sanitary sewer with septic tank and soak pit or sanitary sewer with sump pump and sewage treatment plant can also be used.

5.8.3 Where leaching pits, are used, it should be constructed within the premises of the households as it

would be economical as well as facilitate their cleaning. However, where, due to space constraint, construction of pits within the premises may not be possible, pits may be constructed in places like lanes, streets and roads. Twin leaching pits should be preferred over single leach pits.

5.8.3.1 In case the pit is located under the road, street or foot path the inverted level of the pipe connecting the level of the pipe connecting the latrine pan with the pit shall be at least 1.1 m below ground level or below the bottom of the water main existing within a distance of 3 m from the pits whichever is more. For construction of such pits, IS 12314 may be referred.

5.8.5 The water seal latrine should be properly maintained and kept in sanitary condition by the owner or the occupier. The contents of the septic tanks, soak pits, leach pits, twin leach pits, etc, should be periodically emptied.

The leach pits should be cleaned only after 2 years of their being put out of service after they were full.

6 ROADS AND PATHWAYS

6.1 The area under roads and pathways in such housing projects should normally not exceed 20 percent of the total land area of the project.

6.1.1 Access to the dwelling units, particularly where motorised vehicles are not normally expected should be by means of paved footpaths with a right of way of 6 m and a pathway of 2 m only. The right of way should be adequate to allow for the plying of emergency vehicles and also for road side drains and plantation.

6.1.2 Where pedestrian pathways are not meant for motorable access to the minimum, right of way of such pedestrian pathway shall be 3 m. Where houses are accessible from one side only, pathway can be 2 m width. The maximum length of such pathways should not be more than 60 m.

7 OTHER REQUIREMENTS

7.1 Requirements of fire safety, structural design, building services and plumbing services shall be as specified in SP 7. Luminaries for road and street lighting, flood lighting, external hydrant system consisting of water storage, pumping system and hydrant system, boundary walls/fencing, landscaping and plantation shall be provided as per the relevant provisions of SP 7.

NOTE — All efforts should be made to provide maximum amenities/benefits in low income housing within the estimated cost of such houses. For achieving the aim of providing higher quality of life and to ensure higher order of operational efficiency at affordable cost, as also environmental sustainability, measures such as integrated waste management,

water conservation including rainwater harvesting, integrated multi modal public transportation, energy generation from renewable resources like sun and wind, use of passive technologies for energy generation, use of eco-friendly materials, etc may be adopted.

7.2 One water tap per dwelling units may be provided, where adequate drinking water supply is available. If supply is inadequate, public hydrants shall be provided. In the absence of piped water supply, hand pumps may be used for provision of water supply.

7.3 Recognizing the need for informal use of space for shopping and informal occupation like, road side repairs, pan shops etc, it is suggested that about 1/4 of the total shopping area in a layout should be reserved for such informal uses to cater to the needs of low income families.

7.4 Off-Street Parking Spaces

Off-street parking space for motorcycle/scooter/two-wheeler and bicycle to be not less than 1.25 m² and 1.00 m², respectively shall be provided at the rate of one for each tenement. In case of cluster planning, parking space may be provided at community level. In such a case, in addition to the parking space to be provided as above for each tenement, space provisions shall be made for other types of vehicles such as ambulance and disaster management vehicle, and also for additional spaces required for other vehicles, which shall be as decided by the, keeping in view the nature of traffic generated in the city.

7.5 The infrastructural services shall be provided before the plots are handed over to individual owners.

8 SITE AND SERVICES SCHEMES

8.1 The developed plot sizes shall be as specified in 4.3. Services should be laid by the agency concerned as per the provisions of SP 7. In so far as roads and pathways are concerned they should be in line with 6.

8.2 Site and services schemes should provide for the following:

- a) Complete infrastructural needs for a permanent housing, on the periphery of individual plot or a group/cluster plots;
- b) A service sanitary core in the plot;
- c) A skeletal structure of columns and roof or a developed plinth; and
- d) Permission to allow temporary construction on the plot.

While provisions in 8.2 (a) and 8.2 (d) are essential in site and services projects provisions, recommendations in 8.2 (b) and 8.2 (c) are additional provisions depending upon affordability.

ANNEX A

(Foreword)

Composition of Planning, Housing and Prefabricated Construction Sectional Committee, CED 51

<i>Organization</i>	<i>Representative(s)</i>
In Personal Capacity (<i>Isavasyam TC 18/1023, B-8/2, Lakshmi Nagar, Kesavadasapuram, Pottam P.O, Thiruvananthapuram 695 004</i>)	SHRI V. SURESH (Chairman)
Army Welfare Housing Organization, New Delhi	BRIG PRANV DEV COL PANKAJ MITTAL (<i>Alternate</i>)
B. G. Shirke Construction Technology Limited, Pune	SHRI V. G. JANA SHRI YOGESH P. KAJALE (<i>Alternate</i>)
Bhardwaj Bhardwaj & Associates (P) Ltd, New Delhi	SHRI A. BHARDWAJ
Biltech Building Element Ltd, New Delhi	SHRI RAJDEEP CHOWDHURY SHRI D. V. KULKARNI (<i>Alternate</i>)
Border Roads Organization, New Delhi	SHRI A. P. PITTULE
Building Materials and Technology Promotion Council, New Delhi	DR SHAILESH KUMAR AGRAWAL
Central Government Employees Welfare Housing Organization, New Delhi	SHRI BHUPINDER SINGH SHRI M. NARAYANAN (<i>Alternate</i>)
Central Public Works Department, New Delhi	SHRI MANU AMITABH SHRI DIVAKAR AGRAWAL (<i>Alternate</i>)
City and Industrial Development Corporation of Maharashtra Limited, Navi Mumbai	SHRI S. K. CHOTALIA DR K. M. GODBOLE (<i>Alternate</i>)
CSIR-Central Building Research Institute, Roorkee	DR ASHOK KUMAR SHRI S. K. NEGI (<i>Alternate</i>)
CSIR-Structural Engineering Research Centre, Chennai	DR J. PRABHAKAR DR P. SRINIVASAN (<i>Alternate</i>)
Delhi Development Authority, New Delhi	ENGINEER MEMBER COMMISSIONER (PLANNING) (<i>Alternate</i>)
Delhi State Industrial & Infrastructure Development Corporation, Delhi	SHRI BHAVESH GUPTA SHRI MANISH SAGAR (<i>Alternate</i>)
Delhi Urban Shelter Improvement Board, New Delhi	SHRI S. K. MAHAJAN SHRI JEET RAM (<i>Alternate</i>)
Department of Science & Technology, Ministry of Science & Technology, New Delhi	DR DEBAPRIYA DUTTA
Development Alternatives, New Delhi	MS ZEENAT NIAZI DR SOUMEN MAITY (<i>Alternate</i>)
Engineering Consultants (India) Ltd, New Delhi	SHRI SUKHBIR SINGH MANN SHRI ADITYA SHARMA (<i>Alternate</i>)
Engineers India Limited, New Delhi	SHRI SAMIR DAS SHRI ANISH KUNDU (<i>Alternate</i>)
G.B. Pant Institute of Himalayan Environment & Development, Almora	SHRI KIREET KUMAR DR VARUN JOSHI (<i>Alternate</i>)
Himachal Pradesh Urban Development Authority, Shimla	SHRI DINESH KASHYAP SHRI DEWAN C. SHARMA (<i>Alternate</i>)
Hindustan Prefab Limited, New Delhi	SHRI RAJESH GOEL SHRI S. K. JAIN (<i>Alternate</i>)

<i>Organization</i>	<i>Representative(s)</i>
Housing and Urban Development Corporation Limited, New Delhi	SHRI AKHILESH KUMAR
Indian Green Building Council, Hyderabad	SHRI M. ANAND SHRI PRAVEEN KUMAR SOMA (<i>Alternate</i>)
Institute of Town Planners, India, New Delhi	DR S. K. KULSHRESTHA
Larsen & Toubro Limited, Chennai	SHRI K. P. RAGHAVAN SHRI S. KANAPPAN (<i>Alternate I</i>) SHRI AMIT BARDE (<i>Alternate II</i>)
Military Engineer Services, Engineers- in-Chief's Branch, Integrated HQ of MoD (Army), New Delhi	SHRIMATI RIVOO MAHENDRU SHRI S. K. MISHRA (<i>Alternate</i>)
Ministry of Housing & Urban Affairs, New Delhi	SHRI D. S. NEGI SHRI ZILE SINGH DISHODIA (<i>Alternate</i>)
Ministry of Rural Development, Govt of India, New Delhi	REPRESENTATIVE
Mumbai Metropolitan Region Development Authority, Mumbai	MS UMA ADUSUMILLI SHRI VISHRAN G. PATIL (<i>Alternate</i>)
National Council for Cement and Building Materials, Ballabgarh	SHRI B. P. RANGA RAO SHRI AMIT TRIVEDI (<i>Alternate</i>)
National Housing Bank, New Delhi	SHRI K. CHAKRAVARTHY SHRI VISHAL GOYAL (<i>Alternate</i>)
Nirman Vikas Anusandhan Sansthan, Raipur	SHRI ALOK MAHAWAR SHRI SANJEEV KASLIWAL (<i>Alternate</i>)
North Eastern Council, Shillong	SHRI P. K. H. SINGH SHRI DOBA JINI (<i>Alternate</i>)
School of Planning and Architecture, New Delhi	DR P. S. N. RAO DR ARUNA R GROVER (<i>Alternate</i>)
Shirish Patel and Associates Consultants Pvt Limited, Mumbai	SHRI N. M. AJUGIA SHRI P. S. BADRINARAYAN (<i>Alternate</i>)
Tandon Consultants Pvt Limited, New Delhi	SHRI VINAY GUPTA SHRI PRAVEEN KUMAR (<i>Alternate</i>)
Telangana State Housing Corporation Limited, Hyderabad	SHRI CH MALLIKARJUNA RAO SHRI P. SRIRAMULU (<i>Alternate</i>)
The Indian Institute of Architects, Mumbai	SHRI BALBIR VERMA SHRI DIVYA KUSH (<i>Alternate</i>)
The Institution of Engineers (India), Kolkata	REPRESENTATIVE
Town and Country Planning Organization, New Delhi	SHRI R. SRINIVAS SHRI SUDEEP ROY (<i>Alternate</i>)
Ultratech Cement Ltd, Mumbai	DR VENKATACHALAI AH RAMACHANDRA SHRI SRINIVASA GOVINDAPPA (<i>Alternate</i>)
BIS Directorate General	SHRI SANJAY PANT, SCIENTIST 'F' AND HEAD (CIVIL ENGINEERING) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary

SHRIMATI MADHURIMA MADHAV
SCIENTIST 'D' (CIVIL ENGINEERING), BIS

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attempt is being made to recommend any particular specification for this type of housing; it is entirely up to the concerned agency to decide what specifications they would provide in relation to the total cost of the unit keeping in view the performance requirements.

To get the maximum benefit out of these relaxations, mass housing schemes may be considered for such type of housing so that system building and other techniques would become possible, where necessary and cost of construction reduced.

This standard would be kept under constant review and revised provisions may have to be brought out from time to time based on experience resulting from implementation of the standard.

This standard applies essentially to permanent structures except in the case of site and services scheme.

For maintaining and preserving the environment so created by this housing, it is necessary that the authorities themselves assume the responsibility of management of the open spaces. In the event it is not always possible to do so, appropriate cooperative societies or other mechanisms could be attempted to see that the open spaces provided are utilized for the purpose for which they are meant.

In preparing this standard, it is pointed out that this should be applicable to:

- a) local bodies for suitably adopting these provisions in their local building byelaws/ regulations for providing low income housing;
- b) layout planning of low income housing colonies by all private and public agencies; and
- c) designing and construction of buildings under low income housing either by public agencies, government bodies or by private builders.

This standard provides for incremental housing. This would mean that in the case of housing for low income groups where the construction of a unit cannot be completed at one time depending on their source of the family they should be permitted to add another room at a later stage. For this purpose it has been felt necessary to give scope for incremental housing which would permit both horizontal and vertical increment.

It is felt that site and services schemes should generally follow the pattern of low income housing and therefore it is suggested that the plot size should be limited to 40 m² in normal areas and 25 m² to 30 m² for metropolitan cities and the services should be provided by the public agencies. Here again, the road and pathways have been brought down to the level recommended for low income development.

Having provided site and services, the authorities may decide to provide wherever possible a skeletal structure of columns and a roof or a developed plinth so that the owner of the site could build up the rest depending upon his resources. Here again, the question of maintenance of open spaces and services would be of great importance and the public agency should take responsibility for the same.

The experience and feedback of sites and services schemes, recently executed in country, have revealed that some of the schemes are designed only for providing developed plots. They neither provide the optimum level of quality of living in terms of physical and social environment nor do they help beneficiaries of economically weaker section (EWS) of the community by providing them benefits of differential pricing based on the principle of cross subsidization. Studies on other schemes, particularly those financed by World Bank, have revealed that the provision of commercial and industrial land use in the schemes provides an integrated environment and helps in reducing the price of EWS plot to be within the affordable limits of weaker section. Besides this, integration of housing area with commercial and industrial land uses renders it to be self-supporting and also offers the residents, facilities existing in the heart of the city. The minimum plot size should however be formulated, keeping in view, the built up spaces at the ground floor and the environment requisites.

The composition of the technical committee responsible for formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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